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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/524,291

09/22/2005

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EXAMINER

NGUYEN, VU Q

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/524,291	<b>Applicant(s)</b> GOEBELS ET AL.	
	<b>Examiner</b> VU Q. NGUYEN	<b>Art Unit</b> 3657	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 13-21, 24 and 26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-21, 24 and 26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/12/2008 has been entered.

### ***Claim Objections***

Claims 13-21, 24, and 26 are objected to because of the following informalities:

In claim 13, last line, "the driver" should be --a driver-- to avoid lack of antecedent basis issues.

In claim 26, 3<sup>rd</sup> to last line, "the only one additional solenoid control valve" should be --the only one additional pressure regulating valve-- for proper antecedent basis.

In claim 26, 2<sup>nd</sup> to last line, "the solenoid control valves" should be --the first and second pressure regulating valves-- for proper antecedent basis.

In claim 26, last line, "the driver" should be --a driver-- to avoid lack of antecedent basis issues.

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13-21, 24, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over UK Patent Document GB 2270130 (GB '130) in view of U.S. Patent No. 6371573 (Goebels et al.), and further in view of U.S. Patent No. 6741922 (Holler).

Regarding claim 13, GB '130 discloses in Fig. 2a, a pressure regulator module (100) for a vehicle pneumatic braking system for a wheel-slip-dependent controlling or regulating of braking pressures applied to two separate working connections (18, 19), the pressure regulator module (100) comprising: a two-way valve assembly (1) having two conduits (left and right sides of valve assembly 1), including one relay valve (3, 4), respectively, for each conduit, each relay valve (3, 4) having a control input (5); wherein a respective solenoid control valve (30, 30') (in the form of a proportional valve) is assigned to the control input (5) of each relay valve (3, 4); wherein the solenoid control valves (30, 30'), together with only one additional solenoid control valve (12) coupled on an input side of the module (100), connect the control input (5) of the respective relay valve (3, 4) with at least one of a bleeding system (11, 11'), a control pressure (13, 14), and a compressed-air reservoir (17); a controlling and regulating unit (2) operatively configured to control the only one additional solenoid control valve (12) to connect the control input (5) of the respective relay valve (3, 4) with the compressed air reservoir

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(17) (when valve 12 is in an energized position) for adapting the speed of rotation of a driven wheel, which initially slips during acceleration, to the speed of rotation of a non-slipping wheel.

Regarding claim 13, GB '130 does not disclose expressly that the respective solenoid control valves (30, 30') are in the form of a 3/2-way valve having two switching positions; and the solenoid control valve (30 or 30') assigned to a slipping wheel is controlled in a timed manner depending on the slip rate of the slipping wheel and a change in velocity of said slipping wheel, whereby the solenoid control valve (30 or 30') assigned to the slipping wheel is alternatively switched back and forth between a pressure buildup position and a pressure reduction position by the controlling and regulating unit (2). Instead, the respective solenoid control valves (30, 30') are in the form of proportional valves having continuously changing positions.

Goebels et al. disclose in Fig. 7, the use of a solenoid control valve (55), in the form of a 3/2-way valve having two switching positions, assigned to the control input of a relay valve (57). Goebels et al. further disclose that the solenoid control valve can be controlled in a timed manner depending on the slip rate of a slipping wheel and a change in velocity of the slipping wheel (see Figs. 1, 3-5), whereby the solenoid control valve is alternatively switched back and forth between a pressure buildup position and a pressure reduction position (column 5, lines 1-17).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the proportional valves of the valve assembly taught by GB '130 with 3/2-way valves as taught by Goebels et al. The motivation for doing so would have

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been to utilize a less-expensive way of increasing, reducing, and holding pressure.

Furthermore, 3/2-way valves are easier to control because they only have two switching positions, whereas proportional valves have continuously changing positions (current is varied in an analog manner as opposed to digital). Since 3/2-way valves are capable of increasing pressure, reducing pressure, and holding pressure by alternatively switching back and forth between a pressure buildup and pressure reduction position as taught by Goebels et al. (abstract; column 5, lines 1-17; column 7, line 22 - column 8, line 41), 3/2-way valves are capable of functioning in a similar manner to the proportional valves taught by GB '130. Thus, it would have been obvious to a person of ordinary skill in the art to use 3/2-way valves, which are cheaper and easier to control, instead of proportional valves. Furthermore, one of ordinary skill in the art would control the 3/2-way valves in a proper manner by switching valve positions in a timed manner, as taught by Goebels et al., in order to effectively perform a desired wheel slip control.

Regarding claim 13, GB '130 also does not disclose expressly an acceleration sensor for detecting a lateral acceleration of the vehicle, the acceleration sensor being integrated in the controlling and regulating unit, wherein the controlling and regulating unit determines a risk of overturning the vehicle, based on the detected lateral acceleration, and a driving speed of the vehicle is reduced and the risk of overturning is eliminated by activating the only one additional solenoid control valve and individually controlling the solenoid control valves independently of a reaction of a driver to an automatic anti-lock braking of the vehicle.

Holler teaches an electronically monitored rollover protection system, which can be integrated in an anti-lock braking system (ABS) (see title, abstract). Holler discloses an acceleration sensor (442) for detecting a lateral acceleration of a vehicle, the acceleration sensor being integrated in a controlling and regulating unit (412) (see Fig. 4), wherein the controlling and regulating unit determines a risk of overturning the vehicle, based on the detected lateral acceleration (see Fig. 5, step 516; column 7, lines 10-15), and a driving speed of the vehicle is reduced and the risk of overturning is eliminated by activating and controlling the ABS (comprising valves 414, 420, 430) independently of a reaction of a driver to an automatic anti-lock braking of the vehicle (see Fig. 5; column 7, lines 44-62).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the pressure regulator module taught by GB '130 to include control of rollover/overturning based on lateral acceleration as taught by Holler. The motivation for doing so would have been to provide protection against rollover/overturning, which can be incorporated on an existing ABS, thereby increasing safety and providing more versatile and robust control.

Regarding claim 14, see GB '130 and Fig. 2a, as well as page 11, last paragraph.

Regarding claim 15, see Goebels et al. and disclosure that, in a non-energized normal position, the solenoid control valve (55) switches a control pressure (54) through to a control input of the relay valve (57) and, in an energized position, switches the

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control input of the relay valve (57) through to a bleeding system (53) (Figs. 6 and 7; column 7, line 22 - column 8, line 41).

Regarding claim 16, see Goebels et al. and disclosure of the solenoid control valve (55) having a pressure buildup position (non-energized) and a pressure reduction position (energized). The solenoid control valve (55) can also hold a pressure at a brake cylinder (59) by alternately switching back and forth in the pressure buildup position (non-energized) and the pressure reduction position (energized) under the control of an electronic controlling and regulating unit (19) (abstract; column 5, lines 1-17; column 7, line 22 - column 8, line 41).

Regarding claims 17-19, see GB '130 and Fig. 2a.

Regarding claim 20, see GB '130 and Fig. 2a.

Regarding claim 21, see GB '130 and page 12, last paragraph - page 14, first new paragraph.

Regarding claim 24, see GB '130 and Fig. 2a.

Regarding claim 26, the claim is rejected for at least the same reasons as set forth above.

### ***Response to Arguments***

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.



***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VU Q. NGUYEN whose telephone number is (571) 272-7921. The examiner can normally be reached on Monday through Friday, 11:30 AM to 8:00 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Siconolfi can be reached on (571) 272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/V. Q. N./  
Examiner, Art Unit 3657

/Robert A. Siconolfi/  
Supervisory Patent Examiner, Art  
Unit 3657